



4.2.12 Pinal County

Geography

Pinal County is 3,441,920 acres of land, including part of the Gila River, Ak-Chin, Tohono O'odham and San Carlos Apache Indian Communities. The County is located in the south-central portion of the State and has two distinct regions. The eastern portion is characterized by mountains with elevations to 6,000 feet and copper mining. The western portion is primarily low desert valleys and irrigated agriculture. The County is mapped into four ecoregions. The Mountain Forests are mountainous with moderate to steep slopes, cool summers and cold winters. The high desert has foothills and hot and dry summers and cool winters. The Pine-Oak Forest is predominantly mountainous with cool summers and cold winters. The low desert is one of the few places the saguaro cactus can be found and have hot and dry summers and mild winters.

Population

The County contains a relatively small portion of Arizona's overall population (4.1%). Despite this small proportion, the rate of population growth is somewhat greater than that experienced statewide. Between 2000 and 2005 Arizona's population increased 17.8 % while the County grew 37% to reach a total resident population of 246,660 residents. Significant community growth areas include: Apache Junction, Casa Grande, Florence and Queen Creek. Reflecting a County population growth rate that is comparatively greater than the State average, the communities located near the County's western border with Maricopa County, including Apache Junction, Florence, and currently unincorporated Pinal County, are expected to experience massive population increases in the approaching decades. Based on some of the jurisdictions' past and most recent population data, the projected data may appear inaccurate. This discrepancy is due to higher than expected growth and the projection data source. The US Census Bureau's latest published survey is from the year 2000.

Pinal County Population, 1990-2040							
Jurisdiction	1990	2000	2005	2010	2020	2030	2040
Pinal County	116,379	179,727	246,660	364,587	609,720	852,463	1,081,737
Ak-Chin Indian Community	353	669	N/A	N/A	N/A	N/A	N/A
Apache Junction	18,100	31,814	34,070	25,957	28,718	30,861	32,382
Casa Grande	19,082	25,224	32,470	25,751	28,275	30,325	31,625
Coolidge	6,927	7,786	8,180	7,551	7,784	7,965	8,094
Eloy	7,211	10,375	11,125	10,651	11,562	12,269	12,770
Florence	7,321	17,054	20,530	12,240	12,637	12,945	13,164
Gila River Indian Community	9,540	11,257	N/A	N/A	N/A	N/A	N/A
Kearny	2,262	2,249	2,185	2,903	3,146	3,334	3,468
Superior	3,468	3,254	3,170	3,568	3,616	3,652	3,678
Queen Creek	2,667	4,316	16,414	28,796	N/A	N/A	N/A
Note: Figures for 1990, 2000, 2005 from Arizona Dept. of Commerce. Figures for 2010-2040 from AZ DES (projections date from 1997).							
Source: Arizona Department of Commerce, May 2003; Arizona Department of Economic Security, February 1997.							

Economy & Labor Force

The economic activities of ranching, agriculture and mining that once dominated the County's economy have given way to urban, commercial and industrial developments as well as large retirement communities. Services, Trade, Manufacturing and Agricultural industries encompass the major industries of the County's workforce, with government positions occupying the greatest number of positions. The 83,550 employees comprising the County's civilian labor force in 2005 experienced an unemployment rate of 5.4%, higher than the State's overall rate of 4.6%.

Historic Hazard Events

During the development of the original State of Arizona All-Hazard Mitigation Plan, a list of historic hazard events was compiled. Most counties researched local records and governmental databases to update and add records of recent hazards to the state compiled list for use in their plans. Additional hazard records were researched using the same criteria, with the exception that all damages greater than \$1 were included. Therefore, due to the variety of data sources and criteria, it should be kept in mind that the numbers reported reflect the availability of such data from those sources and the numbers are expected to under-predict the losses actually sustained over the past 30 to 40 years. A more thorough search for historic data in future planning efforts is mentioned in the county plans and encouraged by ADEM.

It is our hope that this data coupled with other risk assessment information will prove to be instrumental in assisting the County and State in future planning and mitigation efforts. We believe this can happen by this data accurately indicating which hazards



we are most susceptible to; how damaging these hazards can be to us; and the damage costs or costs avoided through future mitigation projects.

Historic Record of Disaster Events in Pinal County								
Event Type	Statewide or Multiple County, Incl Pinal				Substantially Pinal			
	Total	Fatalities	Injuries	Loss \$	Total	Fatalities	Injuries	Loss \$
Drought	68	0	0	15,000	0	0	0	0
Flooding/Flash Flooding	8	14	0	666,491,000	11	1	0	30,092,000
Hazardous Materials Incidents	3	0	0	493,000	9	0	7	75,000
Thunderstorms/High Winds	0	0	0	0	24	5	60	2,999,000
Tornadoes/Dust Devils	0	0	0	0	7	2	54	3,500,000
Tropical Storms / Hurricane	8	37	975	20,109,000	0	0	0	0
Wildfire	18	0	0	3,115,000	116	0	0	28,000
Winter Storms	1	0	0	100,000	0	0	0	0
Note: "Statewide or Multiple County, Incl Pinal" events met the 1 or more of the following criteria: at least 1 injury and/or fatality or Historical Significance. All had at least \$50,000 in reported Losses. "Substantially Pinal" events met 1 or more of the following criteria: at least 1 reported injury and/or fatality or Historical Significance. No minimum dollar amount for Losses was used. All information is derived from the best data available at the time.								
Source: Pinal County Multi-Hazard Mitigation Plan, FEMA Approved November 2005.								

Vulnerability

Located between the population centers of Phoenix and Tucson in central Arizona, Pinal County has a relatively moderate number, but a high proportion of population that is potentially vulnerable to hazards. The County has a slightly aged resident base, with 24.8% of its citizens less than 18 years of age and 14.6% over the age of 65. Reflecting new growth influences from the greater Phoenix metropolitan area, the County's housing units are comparatively new, with 14.5% being built before 1970, compared to 19.3% for the State as a whole.

Pinal County Populations Potentially Vulnerable to Hazards, 2005				
Jurisdiction	Population			
	Total	Under 18 yrs	65+ years	Below Poverty Level
Arizona	6,044,985	1,607,966	773,758	840,253
Pinal County	246,660	61,172	35,766	36,012
As a % of County	100%	24.8%	14.5%	14.6%
As a % of State	4.1%	3.8%	4.6%	4.3%
Source: Estimates based on US Census Bureau data, 2007. Poverty Level as defined by US Census Bureau.				

Pinal County Dwelling Units Potentially Vulnerable to Hazards, 2005		
Jurisdiction	Housing Units	
	Total	Built Before 1970
Arizona	2,544,806	490,710
Pinal County	108,777	15,790
Source: Estimates based on US Census Bureau. Data, 2007.		

Hazards & Mitigation Strategy

Using the results of the County's vulnerability and capability analysis and the goals and objectives, a list of actions/projects was formulated. The actions/projects were then evaluated and ranked using the STAPLEE procedure. Below are the top ranking identified hazards and their actions/projects as indicated in the County's Hazard Mitigation Plan approved by FEMA on November 4, 2005:

Drought

Action 1: Continue to require the use and installation of low water-use fixtures in new residential and commercial developments.

Action 2: Continue to require the installation of xeriscape landscape within county-owned right-of-way.

Flooding/Flash Flooding

Action 1: Develop a Master Drainage Plan that identifies issues and problems within watersheds.

Action 2: Proposed mapping of Pinal County by Aerial Photography.



Thunderstorms/High Winds

Action 1: Continue to require tie downs/anchors for new manufactured homes, accessory buildings, carport awnings and perimeter fences to mitigate damages due to high winds/microbursts associated with thunderstorms.

Action 2: Conduct a public awareness campaign to educate citizens about the hazards of high winds associated with thunderstorms.

Mitigation Strategy Progress

During their planning process, the County staff reviewed and evaluated their resources and capabilities in the areas of Existing Plans, Policies and Ordinances; Technical Staff/Resources and Financial Resources. Although all resources are important to a community's ability to mitigate the effects of natural and human-caused hazards, we elected to ask the County to complete a survey indicating their legal and regulatory resources to be included in the Plan. We are pleased to receive feedback that reflects awareness of the need for regulations and guidelines that may have an effect on loss reduction. We believe such resources and capabilities can play a critical part in developing and maintaining a more disaster resistant community. The information below was provided by the County in June 2007:

Action/Project Name	Action# in Current Plan	Hazard Mitigated	Progress Summary	Comments
Stream Gauge – Santa Cruz at	5B & 3A	Flood	In progress with Tohono O'Odham Nation.	Flood control/emergency management projects.
Arial Mapping	5F	Flood	Ongoing project.	
Floodplain Ordinance	5D & 1B	Flood	Completed.	Rev Floodplain Ord to reflect more stringent requirement.
Pinal County Area Drainage Master Plan	5A	Flood	Phase A with 7 watersheds is completed. Data collection on Phase B is completed. There are 20 watersheds in total.	Develop a Master Drainage Plan that identifies issues & problems w/i watersheds.
Flood Control Meetings	5C	Flood	Quarterly meetings w/municipalities & communities are ongoing. We will be expanding the program as we build participation.	Proposed quarterly meetings with all Flood Control districts, cities & ADWR.
ALERT Gauges	5B & 3A	Flood	Existing FCD budget has been apprvd to install a base station in the next yr. New budget proposal would add \$.02 to our assessment to expand the program.	Develop an ALERT rain & stream gauge system within Pinal County.

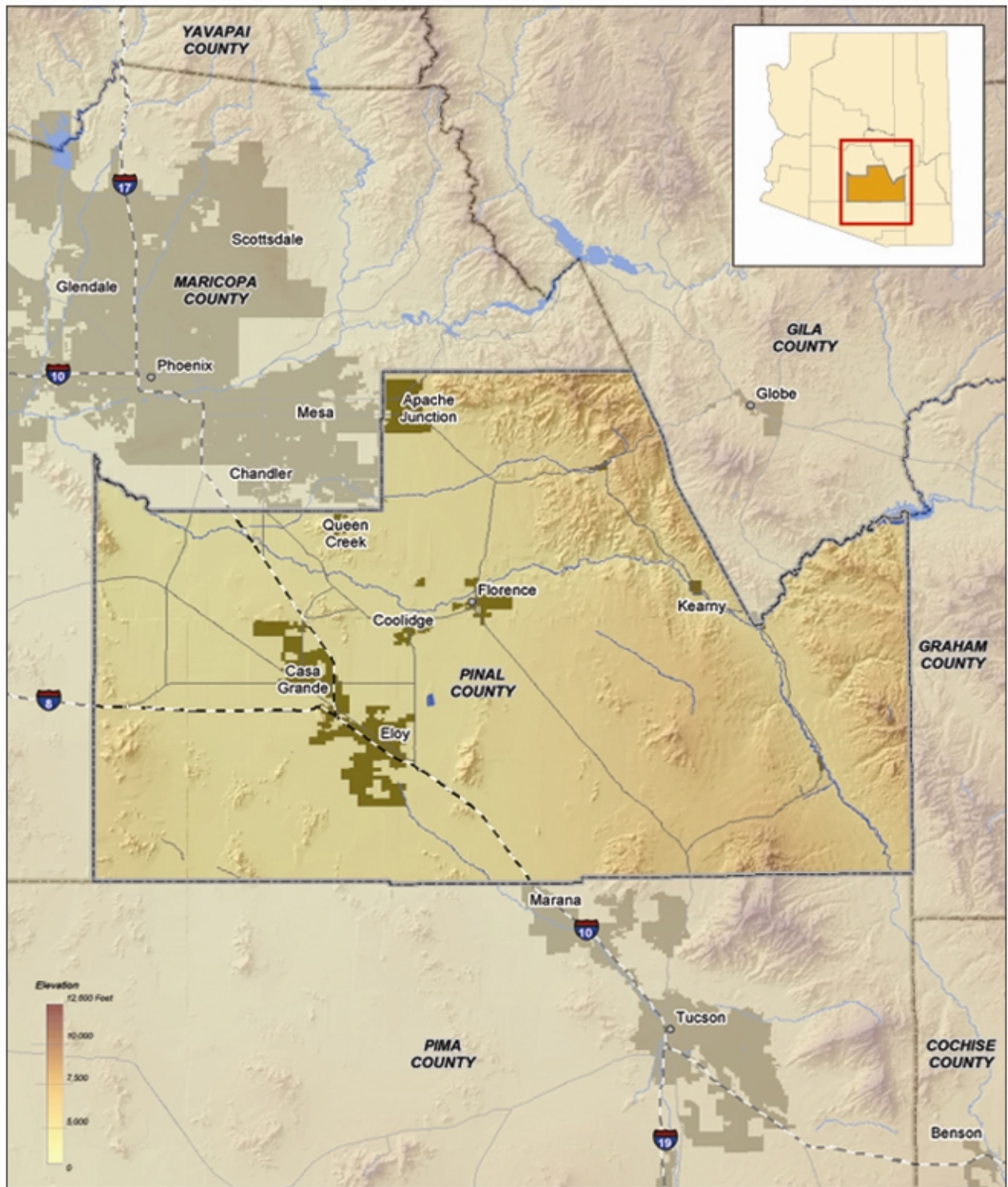


Other Planning Mechanisms

The County staff reviewed and evaluated their resources and capabilities in the areas of Existing Plans, Policies and Ordinances; Technical Staff/Resources and Financial Resources. Although all resources are important to a community's ability to mitigate the effects of natural and human-caused hazards, we elected to ask the County to complete a survey indicating their legal and regulatory resources. The information below was provided by the County in June 2007:

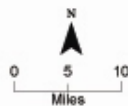
Plan/Policy	Yes	Approval	Responsible		
Ordinance	or No	Date	Authority	Plan Use	Comments
Building Code	Y	3/21/07	Bldg Official	Const reqs & enforcement of the Prop Maint Code for existing bldgs.	Intl Building Code 2006. 2005 for electrical.
Zoning Ordinance	Y	9/2005	P&D Official	Planning & Zoning policies.	N/A
Subdivision Ordinance or Regulations	Y	12/2006	Asst Co Mgr Dev Svcs	Planning/platting & engineer requirements for subdivisions.	Incorporates Design Manual.
Special Purpose Ordinance	Y	5/2006	P&D Official	Control noise to protect residents.	N/A
Site Plan Review Requirements	Y	Pending	Asst Co Mgr Dev Svcs	Planning & engineer reqs for commercial & industrial sites.	Process in place, will be part of zoning code update.
General or Comprehensive Plan	Y	11/2006	P&D Official	General land use policies.	N/A
Capital Improvement Plan	Y	5/2006	Asst Co Mgr Dev Svcs	Impact fees, capital project planning/funding.	Annual update.
Economic Development Plan	N	Est 11/2008	Asst Co Mgr Dev Svcs	N/A	In process.
Emergency Response Plan	Y	11/2004	Director EM	Planning, Response, Recovery, Mitigation operations.	Reviewed annually.
Post-Disaster Recovery Ordinance	N	N/A	N/A	N/A	Much of this covered in state, county & local approved plans.
Post-Disaster Recovery Plan	Y	11/2004	Director EM	Planning, Response, Recovery, Mitigation operations.	Reviewed annually.
Real Estate Disclosure Statement	N	N/A	N/A	State Tax Lien sales have a "whereas as is- no guarantee".	County sells very little property.
Floodplain Management Ordinance	Y	8/2006	PC Flood Control	Mitigation & Regulation of the floodplain.	Updated to meet current FEMA requirements.

Source: Survey from ADEM to County Emergency Managers, 2007.



LEGEND

- Interstate
- Highway
- City
- Major Stream
- County
- Lake
- County Seat



State of Arizona
Multi-Hazard Mitigation Plan

Map 14 Major Features of Pinal County